

Evaluation Tool for Quantitative Research Studies

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Building on work within a project exploring the feasibility of undertaking systematic reviews of research literature on effectiveness and outcomes in social care, a set of evaluation tools have been developed to assist in the critical appraisal of research studies. The evaluation tool for quantitative studies contains six sub-sections: study evaluative overview; study, setting and sample; ethics; group comparability and outcome measurement; policy and practice implications; and other comments. It provides a template of key questions to assist in the critical appraisal of quantitative research studies.

Review Area	Key Questions
(1) STUDY OVERVIEW	
Bibliographic Details	0. Author, title, source (publisher and place of publication), year
Purpose	1. What are the aims of the study? 2. If the paper is part of a wider study, what are its aims?
Key Findings	3. What are the key findings of the study?
Evaluative Summary	4. What are the strengths and weaknesses of the study and theory, policy and practice implications?
(2) STUDY, SETTING, SAMPLE AND ETHICS	
The Study	5. What type of study is this? 6. What was the intervention? 7. What was the comparison intervention? 8. Is there sufficient detail given of the nature of the intervention and the comparison intervention? 9. What is the relationship of the study to the area of the topic review?
Setting	10. Within what geographical and care setting was the study carried out?
Sample	11. What was the source population? 12. What were the inclusion criteria? 13. What were the exclusion criteria? 14. How was the sample selected? 15. If more than one group of subjects, how many groups were there, and how many people were in each group? 16. How were subjects allocated to the groups? 17. What was the size of the study sample, and of any separate groups? 18. Is the achieved sample size sufficient for the study aims and to warrant the conclusions drawn? 19. Is information provided on loss to follow up? 20. Is the sample appropriate to the aims of the study? 21. What are the key sample characteristics, in relation to the topic area being reviewed?
(3) ETHICS	
Ethics	22. Was Ethical Committee approval obtained? 23. Was informed consent obtained from participants of the study? 24. Have ethical issues been adequately addressed?

(4) GROUP COMPARABILITY AND OUTCOME MEASUREMENT	
Comparable Groups	<p>25. If there was more than one group was analysed, were the groups comparable before the intervention? In what respects were they comparable and in what were they not?</p> <p>26. How were important confounding variables controlled (e.g. matching, randomisation, in the analysis stage)?</p> <p>27. Was this control adequate to justify the author's conclusions?</p> <p>28. Were there other important confounding variables controlled for in the study design or analyses and what were they?</p> <p>29. Did the authors take these into account in their interpretation of the findings?</p>
Outcome Measurement	<p>30. What were the outcome criteria?</p> <p>31. What outcome measures were used?</p> <p>32. Are the measures appropriate, given the outcome criteria?</p> <p>33. What other (e.g. process, cost) measures are used?</p> <p>34. Are the measures well validated?</p> <p>35. Are the measures of known responsive to change?</p> <p>36. Whose perspective do the outcome measures address (professional, service, user, carer)?</p> <p>37. Is there a sufficient breath of perspective?</p> <p>38. Are the outcome criteria useful/appropriate within routine practice?</p> <p>39. Are the outcome measures useful/appropriate within routine practice?</p>
Time Scale of Measurement	<p>40. What was the length of follow-up, and at what time points was outcome measurement made?</p> <p>41. Is this period of follow-up sufficient to see the desired effects?</p>
(5) POLICY AND PRACTICE IMPLICATIONS	
Implications	<p>42. To what setting are the study findings generalisable? (For example, is the setting typical or representative of care settings and in what respects?)</p> <p>43. To what population are the study's findings generalisable?</p> <p>44. Is the conclusion justified given the conduct of the study (For example, sampling procedure; measures of outcome used and results achieved?)</p> <p>45. What are the implications for policy?</p> <p>46. What are the implications for service practice?</p>
(6) OTHER COMMENTS	
Other Comments	<p>47. What were the total number of references used in the study?</p> <p>48. Are there any other noteworthy features of the study?</p> <p>49. List other study references</p>
Reviewer	<p>50. Name of reviewer</p> <p>51. Review date</p>

Source: Long AF, Godfrey M, Randall T, Brett AJ and Grant MJ (2002) *Developing Evidence Based Social Care Policy and Practice. Part 3: Feasibility of Undertaking Systematic Reviews in Social Care*. Leeds: Nuffield Institute for Health.

Note: This tool was developed while the lead author was at the Health Care Practice R&D Unit (HCP RDU) at the University of Salford. It has since been slightly modified.